

CIVL 498C Stage 3 Final Project Outline

DUE – 3pm on November 19th, 2014

This document outlines the [1] Project Deliverables, and [2] Evaluation of your Final Report.

PROJECT DELIVERABLES

The deliverables to be submitted for this Final Project include:

- One bound hardcopy of your group's Final Report.
- Each group member is to upload the following files to their Dropbox in a folder named 'Final Project Submissions':
 - Copy of your Final Report with all sections included in a **.doc** and **.pdf** format
(*YourGroupName_FinalReport*)
 - An excel document with calculations for figures and tables saved in **.xls** format.

Indicator	Description	Marked out of	Marks deducted	Comments
Deliverables Submission	Deliverables are complete and submitted on time.	10% deduction per day from 'Final Report Evaluation'		

FINAL REPORT EVALUATION

Your primary audience is Penny, so aim to keep your report brief and professional in look and language.

This is a research paper, so you are expected to use external sources of information as well as the previous reports as information sources to support your work. When doing so, use the following webpage as a formatting guide. <<http://tim.thorpeallen.net/Courses/Reference/Citations.html>>

Include a title page and use the following **major section headings** to structure your final report, through feel free to change the major heading names.

Each section has notes to help you develop your report content. You should also aim to go beyond these notes to develop your own ideas in each section.

Make sure to read each section's rubric carefully in order to score top marks.

Executive Summary

- Provided one-page summarizing key findings and discussion points from your report.

List of Figures

List of Tables

Indicator	Description	Marked out of	Marks awarded	Comments
Context of and Purpose for Writing	Demonstrates a thorough understanding of the context, audience, and purpose of the section and it's connection with the purpose of the report.	2		
Language and Mechanics	Use of LCA terminology and syntax, and professional language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.	2		
Content Development	Development and use of appropriate, relevant, and compelling ideas and figures to illustrate mastery of the subject, conveying the writer's understanding.	2		

Introduction

- Provide introductory remarks to summarize the purpose of the report and sections in the report.

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Context for Use of LCA at UBC

- Goal – To rationalize the institution of environmental life cycle assessment (LCA) in UBC building design and operations.
- Focus your discussion on where LCA's application can support sustainability programs that affect buildings, including:
 - Climate Action Plan ([link](#)) – reporting annual GHGs in operations.
 - Vancouver Campus Plan Part 3 Design Guidelines ([link](#)) - currently no LCA reference.
 - Technical Guidelines ([link](#) and [link](#)) – loose references LCA, point out confusion with LCC.
 - UBC RFI Evaluation Criteria ([link](#)) – reference to LCA.
 - LEED v4 ([link](#)) – input on LCA credits, should they be mandatory?

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Content Development	Development and use of appropriate, relevant, and compelling ideas and figures to illustrate mastery of the subject, conveying the writer's understanding.	5		
Sources and Evidence	Use of high-quality, credible, relevant sources to develop ideas that are appropriate and contribute to the purpose of the report, and use of proper citation format.	4		

LCA Study of Academic Buildings at UBC Vancouver Campus

- Goal – To report on the LCA study carried out in CIVL 498C and where it can be used by UBC sustainability programs.
- Focus your discussion on key information about the study including:
 - Methods
 - CIVL 498C student project – Background, standardized Goal & Scope.
 - 2014 Class – Academic buildings studied, Stage 1, 2, 3. Comment on the reliability of the CIVL 498C 2014 database and any buildings your team has excluded due to unreliability.
 - Results
 - Use the CIVL 498C 2014 database to provide a summary of environmental impacts and materials used in academic building designs at UBC. Provide figures/tables to illustrate annual/cumulative building and element totals.
 - Discussion
 - What do these results demonstrate about designing buildings that minimize environmental impacts? Provide discussion on rules of thumb for the design of elements by assembly type and material selection.
 - Sustainability program support, where/how can the study be used. For example, your team's use of the previous models to develop proposed designs to achieve LEED points for new construction in Stage 2 Step 5, and how does study fit with doing Building Life Cycle Reduction Option 4.

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Language and Mechanics	Use of LCA terminology and syntax, and professional language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.	6		
Content Development	Development and use of appropriate, relevant, and compelling ideas and figures to illustrate mastery of the subject, conveying the writer's understanding.	10		
Sources and Evidence	Use of high-quality, credible, relevant sources to develop ideas that are appropriate and contribute to the purpose of the report, and use of proper citation format.	2		

Next Steps for Institutionalizing LCA at UBC

- Goal – To propose how UBC should approach the institution of LCA in building design and operations.
- Focus your research and discussion on the following areas:
 - LCA Modeling Tools – for designing and managing construction projects and building operations.
 - LCA Databases – on building materials and energy, LCI data and Impact Assessment, EPDs.
 - LCA Decision Making Methods – for making decisions benchmarks for whole building and by element, weighting, integrated financial-environmental analysis.
 - LCA Communication and Education Resources – for internal and external uses in campus and building programs.

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Conclusion

- Provide concluding remarks to summarize the sections and outcomes of your report.

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Annex A - Author Reflection

Each member in your group completes this section. Reflect on your experience completing this final project in the course. Make sure to cover the following points in your discussions.

- Discussion of your previous exposure/experience with sustainability and LCA, and a brief overview of the topics covered in the course.
- Brief overview of what interested you about this course and the final project LCA study.
- Write down any special interests or thoughts that you've had during this project. It could be revelations you've had during this project, the use of LCA, an innovative solution you had to an issue you had during this project, a reflection upon your expectations before starting this project, etc. etc. It could be words, diagrams, tables, a scribbled drawing that you decided to scan in... anything. It's really up to you to define what goes into this section.
- Mark and briefly comment on which of the 12 CEAB graduate attributes you believe you had to demonstrate during your CIVL498C experience (see **CEAB Graduate Attributes.xls** on course wikispace Final Project Page under Stage 3). Just fill in the table and paste it in this section of your final report.

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